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Feb. 5, 2009

Huntsville's own Ares I-X Roll Control System ships to KSC

By Daniel Kanigan

The Ares I-X team shipped a major piece of flight hardware – the first module of the Roll Control System – to Kennedy Space Center, Fla., Jan. 30. The Roll Control System, or RoCS, was built in Huntsville by Teledyne Brown Engineering under contract to the Marshall Space Flight Center.

“We are absolutely thrilled to see this hardware head down to the launch site,” said Ares I-X Deputy Mission Manager Steve Davis. “The Roll Control System team has really done a great job to make this all come together.”

The first of two Roll Control System modules arrived at Kennedy Jan. 31 and was received at the Hypergol

See RoCS on page 4



Marshall Center Director David King, left, examines one of the Ares I-X roll control system modules with systems engineer James Drake in the manufacturing facility at Teledyne Brown Engineering in Huntsville.

Ares I-X successfully tests separation system in Utah



A full-scale separation test of the forward skirt extension for the Ares I-X flight test in Promontory, Utah, on Jan. 29.

By Daniel Kanigan

The development of NASA's next-generation crew launch vehicle, the Ares I rocket, took another step forward Jan. 29 as Alliant Techsystems, or ATK, successfully tested a critical piece. ATK conducted a full-scale separation test of the forward skirt extension for the Ares I-X flight test at its facility in Promontory, Utah.

“The Ares I-X team is pleased with the completion of this key test that will provide important data leading up to the launch of the Ares I-X flight,” said

Steve Davis, deputy mission manager for the Ares I-X test flight at the Marshall Space Flight Center.

The test simulated the separation event that will take place following the first stage flight of Ares I-X. During the Ares I-X flight, the booster will separate at the frustum, a cone-shaped piece that attaches the first stage to the larger diameter upper stage.

At an altitude of about 15,000 feet, the nose cone will be jettisoned, deploying

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Thirty-three honored with Space Flight Awareness awards

Thirty-three Marshall Space Flight Center team members received Space Flight Awareness awards Jan. 29 for their outstanding contributions to the space program. They will participate in a number of events planned in their honor

at the Kennedy Space Center, Fla., Feb. 10-12, including meeting with NASA's executive management and astronauts, and touring the center. A highlight of their award will be witnessing the STS-119 launch scheduled Feb. 12.



Steve R. Brewster
Engineering Directorate



John W. Brockway
Az Technology



Robert J. Crull
COLSA Corp.



Feraidoon (Fred) Dadfar
Bastion Technologies Inc.



Melinda E. Dodson
Office of Procurement



Steven P. Durham
Office of Strategic Analysis & Communications



James T. Eldridge
Engineering Directorate



Amy S. Epps
Engineering Directorate



David L. Earnest
Office of the Chief Information Officer



Dennis C. Foster
Office of Center Operations



Marcus Wayne Gregg
Engineering Directorate



Phyllis Grela
Teledyne Brown Engineering



Johnny L. Heflin
Shuttle Propulsion Office



James D. Higdon
SAIC



Mark R. Hutchison
BAE Systems



Chantel E. Jacob
Digital Fusion



James Todd Lee
Safety & Mission Assurance



Darrell R. Lenning
SAIC



Tammy T. Matthews
Delta-Critique



Gail L. Martin
Science & Mission Systems Office

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**Space
Flight
Awareness**
NASA
Marshall Space Flight Center



Matthew W. Marsh
Engineering Directorate



Alan F. Patterson
Ares Projects



Thomas Anthony Perry
Jacobs



Cassandra A. Pitts
Office of Human Capital



Donna Gayl Porter
Jacobs



Karen D. Reynolds
Office of the Director



Gary L. Rogers
Stanley/UNITEs



William Lawrence Schneider
COLSA



Scott A. Schutzenhofer
Shuttle Propulsion Office



James Kevin Sykes
Engineering Directorate



Grady E. Threet
Engineering Directorate



William A. Till
Engineering Directorate



Scott Tillery
Shuttle Propulsion Office

Maintenance Facility where it will be loaded with propellant – nitrogen tetroxide and monomethyl hydrazine – before being moved to the Vehicle Assembly Building for installation into the vehicle in preparation for launch later this year.

The Roll Control System performs two primary functions for the Ares I-X vehicle: It rolls the vehicle 90 degrees after liftoff to emulate the Ares I roll attitude at launch, and is used to maintain a constant roll attitude during ascent up to stage separation.

The Roll Control System is located in the lowest segment, or the inter-stage of the Ares I-X Upper Stage Simulator. It consists of two modules, each containing two thrusters capable of generating up to 2,250 pounds of force. The Roll Control System modules are positioned on opposite sides of the outer skin of the rocket and fire tangential to the skin and at right angles to the roll axis to provide a controlling roll torque.

The Roll Control System will operate just after the rocket clears the tower at launch until just before first stage separation. As part of the Upper Stage Simulator, the Roll Control System is expected to break up after it falls into the



Ares I-X Deputy Mission Manager Steve Davis explains the function of the roll control system at a media event before the shipping of the flight hardware.

Atlantic Ocean and will not be recovered.

The Roll Control System propulsion system components were harvested from decommissioned Peacekeeper missiles, which were to be dismantled by the U.S. Air Force as part of the second Strategic Arms Reduction Treaty, called START II. The use of Peacekeeper parts for the Roll Control System – and shuttle parts for the first stage of Ares I-X – was an effective means for NASA to reduce the cost and development time of this flight

test. The alternative would have been to design and build a new propulsion system or use and discard reaction control thrusters needed for the Space Shuttle. Sharing the Vehicle Assembly Building and launch complex with the Space Shuttle Program are other means by which to minimize mission costs.

Kanigan is a member of the Public and Employee Communications Office in the Office of Strategic Analysis & Communications.

Ares I-X test *Continued from page 1*

the pilot parachute. The pilot chute will, in turn, deploy the drogue parachute, which will re-orient the booster vertically and slow it to acceptable conditions for main parachute deployment. At about 4,000 feet, the separation at the base of the forward skirt extension occurs, pulling out the three main chutes packed inside.

Test objectives included demonstrating that the linear shaped charge used to separate the forward skirt extension severed cleanly, and measuring the shock created by that charge. The data will be used to analyze the system and prepare for the Ares I-X flight test and the development of the

Ares I crew launch vehicle.

The forward skirt extension is built to withstand the loads of the first stage and support the weight of the upper stage. The component is built as one solid piece of aluminum forged into a 6-foot-long by 12-foot-diameter cylinder with a unique internal support structure that houses three newly designed main parachutes. Its state-of-the-art design will withstand the force imparted at main chute deployment.

"This was an important milestone for the program, as it validates key parameters to support the upcoming Ares I-X flight test," said Mike Kahn, executive vice president of

ATK Space Systems. "The program is one step closer to the flight test of Ares I-X."

The Ares I-X rocket is scheduled to lift off from NASA's Kennedy Space Center's launch Complex 39B later this year. The rocket will climb about 25 miles in altitude during a two-minute powered flight. The launch will culminate with a test of the separation of the first stage from the rocket and deployment of the accompanying parachute system that will return the first stage to Earth for data and hardware recovery.

Kanigan is a member of the Public and Employee Communications Office in the Office of Strategic Analysis & Communications.

Marshall begins new NCAD login Feb. 2

By Jessica Wallace

On Feb. 2, Marshall Space Flight Center team members will begin the transition of using a single, agency-wide login when accessing their computers. Called the NASA Consolidated Active Directory, or NCAD, the new login will enable access to servers and network resources, such as printers and e-mail, from anywhere in the agency.

"The migration allows for all NASA team members to be under one domain," said Kenyetta Sanders, Marshall's ODIN outreach manager in the Office of the Chief Information Officer. "This service will improve security management while

creating a simpler desktop experience."

Users will be notified by ODIN outreach of their scheduled migration seven days in advance. Additional reminders will be sent as well. Once the migration occurs, users will log in to their computer under NDC\UserID when typing their password. A benefit with NCAD is every NASA team member's login process will be identical.

Future plans call for NCAD to support the use of NASA Smartcards – improving security. The smartcard will allow users to log in to their computer by inserting their NASA badge into a card reader at

computer systems and entering a Personal Identification Number.

"NCAD also will allow people moving from one center to another to use their UserID to access files from their laptops or when using other centers' computers," said Sanders.

To learn more about the upcoming NCAD migration and view the Marshall migration schedule, visit <https://www.odin.lmit.com/ncad>.

Wallace, an AI Signal Research Inc. employee and the Marshall Star editor, supports the Office of Strategic Analysis & Communications.

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue, Feb. 12, is 4:30 p.m. Thursday, Feb. 5.

Miscellaneous

30Gb Video iPod, black, \$70; Laptop Logitech computer camera, \$45. 783-3428

Antique oak dresser, early 1900s, beveled rotating mirror, roller feet, four drawers, \$175. 684-3824

Firewood, \$80 per truckload. 755-0050

CalSpa hot tub, fits six people, high-end model, \$2,700. 489-8031

Play System, red wood, swings, slide, rope ladder, \$300. 772-2332

China cabinet, \$300; oak computer desk, \$300; go cart, \$300. 684-6006

Retractable cargo cover, for 2005-2006 Honda CRV, \$50. 603-1643

Plans and complete hardware kits for DIY captain's bed, twin loft bed, \$50. 351-1754

King-size waterbed, waveless mattress, pedestal type, drawers beneath, lighted, mirrored headboard, \$100. 656-3196

Wicker furniture, two-drawer chest, \$20; mirror, \$10; headboard, \$20; plant stand, \$5. 772-1989

Broyhill 8-foot living room couch, matching pillows, blue pattern, \$95. 468-9792

HP Pavilion a340n Desktop PC, 17-inch monitor, Ink Jet printer, speakers, \$325. 652-0227

Sofa, beige, paisley design, \$300. 586-7424

Queen-size sleigh bed, dresser, mirror, night stand, pillow-top mattress, \$900. 882-6014

Reed & Barton 1982 Winterthur Silverplate, 16 place settings, five serving pieces, \$975 obo. 347-1674

Epiphone Dot electric guitar, hard case, \$350. 783-4850

Wood table, extension, three chairs. 656-2380

24 11-1/2-inch hurricane shades, base, \$2 each; 10 8-1/2-inch hurricane shades, base, \$1 each. 852-6335

Broyhill kitchen hutch, glass sides/doors/shelves, \$395; five-piece indoor wicker set, \$350. 975-1667

Gaggia Synchrony compact super-automatic espresso machine, \$200. 830-0248

Albany two-tone contemporary sofa, dark brown, light brown microfiber cushions, \$300. 527-3486

2003 Ford F-150 factory bed liner insert, \$100. 880-6335

Top-loading GE washing machine, \$125. 682-4739

Goodyear Assurance TripleTred 205/55R16 tires, 7/32" tread remaining, \$35 each, \$120 for four. 837-1035

Xbox360, 20GB, two wireless controllers, two guitars, 15 games, more, \$375 obo. 325-7372

Lined drapes, two pairs, custom, off-white, 53Wx82L, 84Wx82L, rods, \$200. 683-3398

Playstation 2, one control, \$100; RockBand set, \$80; EA Sports Boxing game, \$10. 684-7937

Vehicles

2008 Blue Honda Accord Coupe, black leather, ground effects, V6, multi-CD, iPod, \$26,900. 604-9951

2008 Mustang GT Coupe, silver, leather, six-disc premium sound, Sirius, Bluetooth, 6,600 miles, \$22,900. 724-1789

2008 Ford Edge, 2,500 miles, sell for payoff. 683-3932

2007 Honda Civic SI Coupe, two door, six speed, all power, 21k miles, \$19,300. 931-0077

2007 Chevy Tahoe LT, loaded, leather, third row, remote start, 38k miles, \$22,500. 404-281-9808

2006 BMW 325i, white/tan, loaded, 41k miles, \$21,900. 883-6894 or 468-6894

2005 Kia Amanti, V6, fully loaded, leather, power sunroof, 44k miles, \$11,500. 759-0478

2005 Ford Five Hundred Limited, AWD, leather, power moonroof, 44k miles, \$13,500. 975-1667

2005 Subaru Outback Wagon, auto, AWD, trailer

hitch, Pioneer iPod stereo, 91k miles, \$10,900. 652-3809

2004 Volvo XC90 2.5T SUV, four door, white, leather, heated seats, 97k miles, \$14,200. 325-6748

2004 Buell Lightning XB12-S motorcycle, 1203 CC engine, red, 2k miles, \$5,500. 232-0651

2001 Kawasaki Bayou 300 4x4 ATV, red/black, less than 50 hours ride time, \$2,700 obo. 828-9798

2000 Dodge Ram, dark green, tan leather interior, eight cylinder, 80,937 miles, \$6,000 obo. 341-7553

2000 BMW 328i sedan, white, 18-inch chrome wheels, 83k miles. 230-5897

1998 Jeep Laredo, 2WD, factory engine replacement, new tires/battery, \$5,000. 508-0991

1997 Continental Town Car, loaded, \$3,850. 586-7424

1975 Maserati Merak, all parts, rust, no paint, assembly manual, 9k miles, \$12,000. 828-6213

1969 Pontiac Catalina, miscellaneous interior/engine/body parts, price negotiable. 797-7829

Wanted

Classic rock LPs (records). 509-0256

EZ-Curl weight bar, must fit universal weight. 352-514-8405

Houses/offices to clean, available evenings/weekends. 777-8595

Used kitchen/bathroom cabinets, countertops, appliances. 931-273-9563

Tree stand/tripod, 300-pound weight limit. 813-391-9673

Coupon, \$40, for digital to analog TV signal converter. 828-1234

Free

Two female Lab mixes, 18 months old, spayed, all shots, dog pen included. 586-7375

Five-month-old male guinea pig, cage, all equipment. 883-9741 or 694-4468

Found

Silver ring with flowers, Building 4600; silver bracelet, inlaid design, Building 4600. 544-4680

Shuttle Discovery launch now no earlier than Feb. 19

During a review of space shuttle Discovery's readiness for flight, NASA managers decided Feb. 3 to plan a launch no earlier than Feb. 19. The new planning date is pending additional analysis and particle impact testing associated with a flow control valve in the shuttle's main engines.

Discovery's STS-119 mission to the International Space Station originally had been targeted for Feb. 12.

The valve is one of three that channels gaseous hydrogen from the engines to the external fuel tank. One of these valves in shuttle Endeavour was found to be damaged after its mission in November. As a precaution, Discovery's valves were removed, inspected and reinstalled.

The Space Shuttle Program will convene a meeting Feb. 10 to assess the analysis. On Feb. 12, NASA managers

and contractors will finalize the flight readiness review, which began Feb. 3, to address the flow control valve issue and to select an official launch date.

The 14-day mission will deliver the station's fourth and final set of solar arrays, completing the orbiting laboratory's truss, or backbone. The arrays will provide the electricity to fully power science experiments and support the station's expanded crew of six in May.

Discovery also will carry a replacement distillation assembly for the station's new water recycling system, which was developed by the Marshall Space Flight Center. The unit is part of the Urine Processing Assembly that removes impurities from urine in an early stage of the recycling process. The Water Recovery System was delivered and installed during the STS-126

mission in November, but the unit failed after Endeavour's departure.

Commander Lee Archambault will lead a crew of six on STS-119, including pilot Tony Antonelli and mission specialists Joseph Acaba, Richard Arnold, John Phillips, Steve Swanson and Japan Aerospace Exploration Agency astronaut Koichi Wakata. Wakata will replace Sandra Magnus aboard the station. She will return home with the Discovery crew after three months in space.

Former science teachers Acaba and Arnold are now fully trained NASA astronauts. They will make their first journey to orbit on the mission and step outside the station to conduct critical spacewalking tasks.

STS-119 will be Discovery's 36th mission and the 28th shuttle flight dedicated to station assembly and maintenance.

Triplett, Wales win seats on Marshall's NASA Exchange Council

Rhoney Triplett Jr. and May Wales have been elected to two-year terms on Marshall's NASA Exchange Council by Marshall Space Flight Center's civil service employees.

Triplett is a contract specialist in the Office of Procurement, and Wales is a team lead in the Office of Strategic Analysis & Communications.

The new council members, who join seven other members, will help shape the direction of the Marshall NASA

Exchange in providing services for the health and welfare of Marshall team members.

Council member duties include assisting with development of new Exchange policies and programs, voting on request of money or services from the Exchange, as well as developing new business opportunities.

The Exchange also funds centerwide events such as the Marshall Fall Cookout and the Center Director's



Rhoney Triplett



May Wales

Holiday Reception.

To learn more, visit <http://exchange.msfc.nasa.gov/>.

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